

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
10 January 2002 (10.01.2002)

PCT

(10) International Publication Number
WO 02/03696 A1

(51) International Patent Classification⁷: H04N 7/16, 7/173

(21) International Application Number: PCT/IB01/01211

(22) International Filing Date: 6 July 2001 (06.07.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
001145558.0 6 July 2000 (06.07.2000) EP

(71) Applicant (*for all designated States except US*): NA-
GRAVISION S.A. [CH/CH]; 22, route de Genève,
CH-1033 Cheseaux-sur-Lausanne (CH).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): ENGESTRÖM,
Sven [SE/CH]; Chemin de la Richardaz, CH-1031 Mex
(CH). STRANSKY, Philippe [CH/CH]; Rue Pré-Fontaine
H, CH-1261 Marchissy (CH).

(74) Agent: LEMAN CONSULTING S.A.; 62, Route de Clé-
menty, CH-1260 Nyon (CH).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: METHOD FOR GRANTING CUSTOMERS ACCESS TO A PRODUCT

(57) Abstract: The invention concerns a method for granting customers access to a product or a set of products, comprising the steps of: providing by the customer through a secured communication network a code to a registration center, said code being unique, transmitting said code from the registration center to an authorization center, retrieving the identifier of the product or the set of products from said code, by requesting a data base or calculating said identifier, transmitting by the authorization center an authorization code to the customer terminal, said authorization code allowing access to the product or the set of products.

WO 02/03696 A1

METHOD FOR GRANTING CUSTOMERS ACCESS TO A PRODUCT

The present invention concerns a concept in which a customer, i.e. an individual or a household, wishes to use or accesses a product which is subject of the payment of a corresponding fee.

There is an unsatisfied need for products providers, sponsors of sports events or of artistic shows, to propose to the public at large the possibility to view at home the event that they are promoting. Currently, these operators have to use existing channels to access the viewer's homes, which can be complicated and time-consuming.

The present invention proposes a solution to this problem, as per the characterizing part of claim 1. The customer, who is generally a subscriber of a PayTV system, can easily purchase a particular event and add it to the collection of events he is entitled to watch.

In a preferred mode of realization of the invention, there is a single smart card per subscriber, which is the one supplied initially to the subscriber with the STB or Integrated Receiver Decoder that is connected to the television set to enable the subscriber to watch the events he pays for. The advantage of this single smart card mode, as opposed to a system where the required functionality would be achieved with multiple smart cards, is that it avoids and precludes any security issues concerning pairing and data transfer between the bought cards, that would be valid for each particular supplementary event, and the main smart card. Use of multiple smart cards presents the advantage of allowing proprietary systems to work independently on the STB of consumers without interacting with other systems. This can be interesting in some environments where high security is demanded.

The subscription to the basic TV package is not mandatory, viewers can use only IPPV (Impulse Pay-per-View) if they wish. The IPPV mode must

be enabled for each specific subscriber in the Subscriber Management System of the Pay TV System; this can preferably be done by default.

In a particular embodiment of the invention, the prepaid card is a paper (cardboard) or plastic card, but not a smart card, i.e. the card has no embedded chip in the paper or plastic. It carries a code number which is not visible when buying the card, but can be revealed by scratching the surface of the card. This code is unique and allows to retrieve the product associated. The card may be mechanically protected before sale by a transparent plastic package. To obtain the product, this code number must be validated in a central database.

In a first method of verification, the unique code is used to access a database which comprises the definition of the product and the unique code associated.

In a second method of verification, an algorithm is used to retrieve the product identifier from the unique code.

In both methods, a database is used to store the unique code in order to avoid multiple authorization process with the same code. At the first usage, the record associated to this code is marked as used.

Additional parameters that can also be considered are an expiry date, a channel-related code allowing the operator to trace the channel through which a new customer was acquired or through which an existing customer was added to an amateurs'list, or others.

In a particular embodiment of the invention, designed to deter dishonest users from attempting to pass on their card number to friends, a warning system displays a message on the screen of the customer terminal. In this embodiment, subsequent attempts to use the card could result in this message to the initial user requesting him to destroy the card after usage. The user is then warned that the system keeps track and control of any

fraudulent attempts to re-use a particular card that he purchased or received in the context of a particular situation, and did not dispose of properly.

The unique code numbers are recorded by the manufacturer. They are entered in the server database only once safely transferred to the point of sale. The numbers can be tracked to the point of sale which allows precise marketing and geographic control of sales.

Other ways of distributing a not directly visible number can be used within the scope of the present invention. These include ways in which a printed number can be seen only if a sealed folded paper or envelope is torn open by the entitled user.

In a first embodiment of the invention, called "credit update without return path", when the user has revealed the code, e.g. by scratching his card or tearing his envelope as mentioned before, he can call a voice server (automated phone call handling machine). The server will identify the caller, check the central database, and will send data to the SMS i.e. the Subscriber Management System. Said SMS then sends a command to the corresponding SMS gateway and finally an EMM, or Entitlement Management Message, with the credit involved. ANI (Automatic Number Identification) can be used to identify subscriber if calling from home with registered phone number, or he will be asked to enter a code uniquely his 12-digit smart card UA (Unique Address) number. This UA address usually includes a check sum for security purposes. This mode has the main advantage of being simple. However, a potential disadvantage of this mode is that in the absence of bi-directional communication, it can not be fully guaranteed that the subscriber has received his credit, which can lead to dissatisfaction. In order to reduce risk of the subscriber not receiving his credit EMM, the text displayed on the prepaid card and serving as User's instruction procedure should mention with emphasis that the first step is to make sure the Integrated Receiver Decoder is turned on and connected

with the smart card inserted, and should remain so for some hours or preferably a day. This precaution allows the operator to make sure that the EMM is received by the IRD and that no dissatisfaction will be felt by a careless user who did not follow the instructions.

In the operation "without return path" that was described, it is implied that there is no direct control over the usage of the credit. This is why a second and more sophisticated embodiment of the invention is also proposed and called "credit update with return path".

In this second embodiment, the same principle as above (with a phone voice server) can be applied when a return path is available. However, instead of sending credit directly to the card, an "immediate callback request", as generally known in the art, would be sent. When the STB (Set Top Box, a synonym for Integrated Receiver Decoder) has established communication with the Conditional Access System, sometimes abbreviated as CAS, the credit is sent as a CEMM (abbreviation for Call back EMM). The advantage is that the reception of the credit can be guaranteed and registered in the CAS.

Instead of using a voice server, a specific application can be built into the STB. An additional item on the menu is then displayed and called "register credit". The user is requested to enter the card code on the remote control. The STB dials the CAS, sends the smart card UA and the prepaid card number, the credit is validated in the server and the credit is sent.

The same mechanisms as described above can be use to sell specific events (e.g. one football game) or time-limited subscriptions (e.g. 3 month of special movie channel). The EMM for the predefined product would be sent to the card.

As an example, a known soft-drink producer that sponsors Olympic games can choose, with a system according to the invention, to offer to some of its customers a free TV access to the closing ceremony of said Olympic

games. The cost of this offer is minimal because it can simply consist in a number, adequately packaged on a pack of bottles of said soft drinks. The consumer just has to enter this number appropriately in his existing payTV system hardware to be entitled to watch the captivating closing ceremony, associating the image of the soft-drink producer with that gift he received just by purchasing a pack of bottles.

Similarly, the described system allows intermediate marketing agents to safely determine how many units of a promoted product was effectively sold through the corresponding Pay-per-View channel, and being compensated accordingly with error-free commission systems.

Using cards in the above-described way does not add any prominent feature as compared to classic event selling through SMS, but the generally described prepaid television service presents high advantages from a marketing or perception point of view. It opens the door to new marketing opportunities by multiplying the available channels. In particular, the card can be priced differently from the SMS / CAS product price. When the regulatory conditions allow it, prepaid cards can be bundled physically at low cost with any product, not necessarily a TV-linked product, and charged to the sponsor according to effective usage. There is a high advantage to the sponsor to acquire new segments of customership, e.g. among the young or a targeted public of buyers of some products. Finding on another product's package a free voucher for a pre-paid television service is alluring and represents high marketing value. Additionally, would-be customers can be attracted because the selected distribution channel gives them a greater sense of anonymity when buying the cards, which is an advantage for some services.

In a particular embodiment of the invention, a particular prepaid television service object of the present invention has a subscription start time that is initiated by the consumer revealing the card or envelope number. Today's usual subscriptions have an explicit start date and a specific end date. In

this embodiment, initializing the above-described process by the consumer sets the starting date of validation and the end date is calculated, the service lasting for a predefined period of time as displayed on the card.

When events are sold in this way there is a full control over the effective number of buyers. The control is obtained without the need for a return path. This is a major advantage for paying the rights to contents providers.

According to the present invention, products are not limited to PayTY items such as audio and video. While considering an Internet connection (or other connection media), a product could be a game, a program, data such as weather forecast or stock quotation, which is broadcasted in encrypted form. The customer is then requested to send to the authorization center via a registration center, a unique code which entitle the use of the product.

In return, the authorization center, sends an authorization code which serve as a key to decrypt the product. The transmission is carried out on a secured network, i.e. the data are encrypted and decrypted according to the general security policy of this network.

The authorization code is generally stored on a smart card which contains the secret keys necessary to perform the secured transactions.

Once stored, this authorization code can be used immediately, on customer's request or according to a scheduled time.

In case that the product is not already available on the customer terminal, the customer can request the download of the product by presenting the authorization code.

Another application field of this invention is to buy transportation related services. The product represents the access to a train or an aircraft for a specific travel. The customer, using the unique code number, purchases this service and the authorization code is stored on an electronic media such as a credit card with electronic chip.

When the service is consumed, the costumer produce his electronic media which check the authorization code.

A similar application is then applied in ski resort. Once the authorization code is stored on the customer terminal, a counter is attached to this code.

This counter represents the maximum number of usage or determines a period of time (e.g. a week).

CLAIMS

1. Method for granting customers access to a product or a set of products, comprising the steps of:

- providing by the customer through a secured communication network a code to a registration center, said code being unique,
- transmitting said code from the registration center to an authorization center,
- retrieving the identifier of the product or the set of products from said code, by requesting a data base or calculating said identifier,
- transmitting by the authorization center an authorization code to the customer terminal, said authorization code allowing access to the product or the set of products.

2. Method according to claim 1, characterized in that, the product is a video product, an audio products or data such as program, stock quotation, game.

3. Method according to claim 2, characterized in that, the authorization code grant access to the product immediately, on a scheduled basis or on costumer's request.

4. Method according to claim 3, characterized in that, the product is already stored in the customer terminal and the authorization code authorize immediate or later use of the product.

5. Method according to claim 3, characterized in that, the authorization code allows the download of the product in the customer terminal for immediate or later use of the product

6. Method according to claim 1, characterized in that, the product is the access to limited areas and the authorization code grants the access for a predetermined period of time to said areas.

7. Method according to claim 1, characterized in that, the product is a service related to transport and the authorization code grants access to his service.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 01/01211

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04N7/16 H04N7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 96 26605 A (SMART VCR LTD) 29 August 1996 (1996-08-29) page 6, line 22 -page 8, line 12 page 12, line 15 -page 13, line 31 page 15, line 20 -page 17, line 1 page 22, line 16 -page 23, line 18 figures 1,2	1-7
Y	WO 98 37694 A (TIME WARNER ENTERTAINMENT COMP) 27 August 1998 (1998-08-27) page 21, line 1 -page 22, line 4 page 34, line 8 - line 28 page 43, line 3 - line 32 page 66, line 20 -page 67, line 24 figures 25,28	1-7

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

2 October 2001

Date of mailing of the international search report

09/10/2001

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Van der Zaal, R

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 01/01211

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 680 457 A (BESTLER CAITLIN B ET AL) 21 October 1997 (1997-10-21) column 4, line 8 -column 5, line 48 column 7, line 1 -column 9, line 15 -----</p>	1-3,6,7

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 01/01211

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 9626605	A	29-08-1996	US	5619247 A		08-04-1997
			WO	9626605 A1		29-08-1996
			US	6025868 A		15-02-2000
WO 9837694	A	27-08-1998	US	5850218 A		15-12-1998
			AU	6176298 A		09-09-1998
			AU	6176398 A		09-09-1998
			BR	9807709 A		02-05-2000
			EP	0962096 A1		08-12-1999
			JP	2001508978 T		03-07-2001
			WO	9837694 A1		27-08-1998
			WO	9837695 A1		27-08-1998
US 5680457	A	21-10-1997	US	5590202 A		31-12-1996
			CA	2167222 A1		19-07-1996
			KR	247374 B1		15-03-2000